NWS CHANGE FORM
PART A - COVER SHEET

1A. DATE SUBMITTED
November 19, 2003

1B. DATE RECEIVED

This form is in three parts. Submitters must complete unshaded blocks in Part A and as much of Part B and C as possible. If there is no specific required change date, enter 60 days from date submitted. Address questions to NWS Change Management at (301) 713-1373. Submit change requests to the NWSRC mailbox (External: NWSRC@noaa.gov).

2. ORIGINATOR OFFICE	3. SUBMITTING AUTHORITY	4. COGNIZANT TECHNICAL INDIVIDUAL	5. ORIGINATOR TRACKING NUMBER
Office of Science and Technology, Systems Engineering Center (OST32)	Name:Henry Robinson Routing Code: OS12	Name: Dave Niver Routing Code: W/OST32 Phone: 301-713-9001 x168 Name: James Heil Routing Code: OS11 Phone: 301-713-0463 x172	

6. SYSTEMS AFFECTED BY CHANGE

☐ DATA PRODUCTS ☐ OTHER (specify)

☐ ASOS X AWIPS ☐ NEXRAD ☐ RRS ☐ CRS

7. WSH TRACKING NUMBER

7A. REV LEVEL

8. TITLE OF CHANGE

Draft: Add a Full Set of GFS 211 Grids to SBN/NOAAPORT

9. OPERATIONAL REQUIREMENTS DOCUMENT IDENTIFIER

10. CATEGORY OF CHANGE

X RC ☐ PECP ☐ ECP

11. CLASS OF CHANGE

☐ CLASS I ☐ CLASS II

12. TYPE OF CHANGE

☐ DOCUMENTATION ONLY ☐ HARDWARE X SOFTWARE X DATA

13. SITES AFFECTED All sites

14. STATEMENT OF REQUIREMENT, PROBLEM, OR DEFICIENCY OF EXISTING SYSTEM

The AWIPS Program has a requirement to implement "Full" support for NCEP's Global Forecast System (GFS) model grids, augmenting the current suite of GFS grids available to AWIPS sites (see DRG RC 665 for a description of other recent additions to the GFS AWIPS suite). This RC covers the CONUS (Grid 211) grids only.

This full set of GFS grids will be allocated within AWIPS OB4.

15. KNOWN OR PROPOSED SOLUTION

The additional GFS grid data should be added to the SBN and made available to AWIPS sites. The new GFS grids should follow the same general dissemination pathway as the existing GFS grids:

NCEP ➜ NWS TG ➜ AWIPS NCF ➜ SBN(TG chan) ➜ AWIPS & NOAAPORT Users.

Specifications for new GFS grids:

1. CONUS: Grid 211 (80 km.)

2. PARAMETERS
   There are twenty-eight new parameters (Levels):

Vertical Velocity (29)	Snow Cover
Mean Sea Level Pressure (MSLP)	Best Lifted Index (3)
MSLP (Eta Reduction)	Visibility
Convective Precip	Max. Wind Level Pressure
Lifted Index (3)	Max. Wind Level u-Wind
Precipitable Water	Max. Wind Level v-Wind
Tropopause Pressure	Freezing Level Height
Tropopause u-Wind	Freezing Level Rel. Humidity
Tropopause v-Wind	Potential Vorticity (4)
Surface Pressure	Potential Temp on Pot. Vort. (4)
Mean Relative Humidity	u-winds on Pot. Vort. (4)
Accumulated Precip	v-winds on Pot. Vort. (4)
Precipitation Type	u-wind gust
Cloud Base Pressure	v-wind gust

3. LEVELS
   For the twenty-two new parameters:
   Vertical Velocity - 29 levels:
   21 Levels in 25 mb steps: 1000, 975, 950, 925, 900, 875, 850, 825, 800, 775, 750, 725, 700, 675, 650, 625, 600, 575, 550, 525, and 500 mb.
   8 Levels in 50 mb steps: 450, 400, 350, 300, 250, 200, 150, and 100 mb.
   Lifted Index (LI) and Best LI - 3 levels
   Surface, 2 BL (sigma layers): 0-90 and 90-180 mb AGL (above the surface)
   Potential Vorticity, Temp., and u,v winds: 4 Levels: 0.5, 1.0, 1.5, and 2.0 PVU surfaces
   All other parameters: 1 Level

4. FORECAST INTERVALS
   AWIPS will continue to get GFS grids (at six hour intervals) out to 240 hours for the 00Z, 06Z, 12Z, and 18Z model runs **[but possibly only out to 168 hours for the 06Z and 18Z model runs]**, giving 41 total "valid times":
   00, 06, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96,
   102, 108, 114, 120, 126, 132, 138, 144, 150, 156, 162, 168, 174, 180,
   186, 192, 198, 204, 210, 216, 222, 228, 234, and 240
   Units are hours from model initialization time.

5. The GFS model is distributed four times daily, corresponding to the following initializations: 00, 06, 12 & 18 UTC.

6. An estimated increase (over IFPS) of 88.0 Mbytes/day is expected on the SBN/TG channel, given:
   a. Size of each new 211 (CONUS) grid is 7349 bytes (based on mean size of its 5225 grids);
   b. 73 total new grids per forecast interval:
      Vert. Vel(29), LI(3), BLI(3), Port Vort(4), P.T(4), P.u(4),v(4), other 22 parms (1)
   c. 164 total forecast intervals: 41 intervals at 00, 06, 12, and 18 UTC

The NWS TG shall provide these products in very-near-real time to the AWIPS NCF for uplink on the SBN's TG channel.

16. ALTERNATE SOLUTIONS

None.

17. REQUIRED CHANGE DATE	18. RATIONALE FOR REQUIRED CHANGE DATE	19. PRIORITY
TBD	This product has been allocated to AWIPS OB4, which is scheduled to commence deployment in August 2004.	☐ ROUTINE ☒ URGENT ☐ EMERGENCY

DRG/CCB/PMC/CMB DECISION						
20. DECISION AUTHORITY LEVEL	☐	FAST TRACK	☐	CCB LEVEL ONLY	☐	PMC or NWS CMB DECISION REQUIRED
21. CCB LEVEL DECISION	☐	APPROVED	☐	DISAPPROVED		SIGNATURE
	☐	RECOMMEND APPROVAL				DATE SIGNED
FOR USE ONLY WHEN PMC or NWS CMB DECISION REQUIRED						
22. PMC OR NWS CMB DECISION	☐	APPROVED	☐	DISAPPROVED		SIGNATURE/DATE

NWS CHANGE FORM
PART A - DATA PRODUCTS SUPPLEMENT

1. ORIGINATOR TRACKING NUMBER

This information is required for Data Products submissions.

2. WSH TRACKING NUMBER	2A. REV LEVEL

3. NODE ID	4. AWIPS ID NNNXXX	5. WMO HEADER	6. ADD REV DEL	7. SEAS Y/N	8. CHAR PER MSG	9. FREQUENCY	10. NWSTG DISTR	NWWS ONLY 11. PRIME UPLINK	 12. B/U UPLINK

Notes: The WMO header assignment notes, below, refer to the generic header template: $T_1T_2A_1A_2ii$.

TBD

FOR METAR CHANGES ONLY								17. INTERNAL NWS USE ONLY	18. PRODUCT SOURCE		19. AWIPS DATA TYPE
13. COMMS ID	14. N. LATITUDE			15. W. LONGITUDE			16. ELEV (M)				
	DEG	MIN	SEC	DEG	MIN	S E		20. NOTIFICATION	A. CHANGE NOTICE NUMBER	B. EFFECTIVE DATE	C. ISSUE DATE
								AWIPS			
								EMWIN			
								NWWS			

NWS CHANGE FORM
PART B - FUNDING AND SUPPORT ACTIVITIES

	1. ORIGINATOR TRACKING NUMBER

All RC/ECP submissions must also address the following information. Attach extra pages if necessary, referencing each applicable subject.	2. WSH TRACKING NUMBER	2A. REV LEVEL

FUNDING INFORMATION	SOURCE OF FUNDING	COST DATA
3A. DEVELOPMENT COSTS	3B.	3C. $
4A. OPERARQONAL TEST AND EVALUARQON COSTS	4B.	4C. $
5A. PRODUCRQON COSTS	5B.	5C. $
6A. COMMUNICARQONS SERVICE/CIRCUITS COSTS	6B.	6C. $
7A. IMPLEMENTARQON SUPPORT COSTS	7B.	7C. $
8A. LIFE CYCLE SUPPORT COSTS	8B.	8C. $
9A. CCB COST EVALUARQON NWS COST $ FAA COST $ DOD COST $ OTHER AGENCY COST $ (SPECIFY)		9B. TOTAL COST $

SUPPORTING INFORMATION AND SCHEDULES

10. DEVELOPMENT STATUS/SCHEDULE	11. PROCUREMENT STATUS/ SCHEDULE
12. IMPLEMENTATION/RETROFIT STATUS/SCHEDULE	13. FACILITY INFORMATION
14. COMMUNICATIONS RESOURCES TO BE INSTALLED	15. COMMUNICARQONS RESOURCES TO BE REMOVED
16. REQUIRED CLEARANCES, WAIVERS, AND LICENSES	17. COORDINARQON OF CHANGE WITH OTHER CHANGES
18. PHYSICAL ITEMS AND DOCUMENTS AFFECTED	19. STAFF RESOURCE IMPACTS
20. LOGISRQCS IMPACTS	21. OPERARQONAL IMPACTS
22. ADDIRQONAL MAJOR CHANGE ACRQVIRQES	

NWS CHANGE FORM
PART B - PHYSICAL ITEM AND DOCUMENT IMPACT MATRIX SUPPLEMENT

1. ORIGINATOR TRACKING NUMBER	
This information is required prior to publication of Engineering Modification Notes and Software Release Notes.	2. WSH TRACKING NUMBER / 2A. REV LEVEL

PART AND SOFTWARE IDENTIFICATION

3. ITEM TYPE: HARDWARE SOFTWARE	4. ITEM NAME AND REFERENCE DESIGNATOR	5. ADD REMOVE REPLACE MODIFY	6. OLD PART OR SOFTWARE VERSION		7. NEW PART OR SOFTWARE VERSION	
			A. PART NUMBER OR SOFTWARE VERSION	B. SERIAL NUMBER OR LOT	A. PART NUMBER OR SOFTWARE VERSION	B. SERIAL NUMBER OR LOT

DOCUMENTATION IDENTIFICATION

8. DOCUMENT TYPE	9. DOCUMENT TITLE	10. ADD REMOVE REPLACE MODIFY	11. OLD DOCUMENT		12. NEW DOCUMENT	
			A. IDENTIFIER	B. REVISION IDENTIFIER	A. IDENTIFIER	B. REVISION IDENTIFIER

NWS CHANGE FORM
PART C - CHANGE AND IMPLEMENTATION ACTIVITIES

	1. ORIGINATOR TRACKING NUMBER	
Submitters should propose implementation actions; WSH will assist with and supplement actions or required statements when necessary.	2. WSH TRACKING NUMBER	2A REV LEVEL

3. IMPLEMENTATION DOCUMENTS REQUIRED

☐ Engineering Modification Note ☐ Software Release Notes ☐ Other Document (Specify)_____

ADDITIONAL IMPLEMENTATION INSTRUCTIONS

4. IMPLEMENTATION ACTIVITY REQUIRED	5. REQUIRED COMPLETION DATE	6. RESPONSIBLE PERSON AND OFFICE	7. DOCUMENT OR ACTION REQUIRED TO VERIFY COMPLETION